

What is claimed is:

1. A method for controlling access to a Multimedia Broadcast Multicast Service (MBMS) service comprising:
 - determining a quantity of mobile stations subscribed to the MBMS service and
 - 5 maintaining an active connection;
 - determining an access probability factor;
 - broadcasting a control message comprising the access probability factor;
 - receiving, from each of one or more idle mode mobile stations, a response to the control message;
 - 10 comparing the number of received responses to a threshold to produce a comparison; and
 - determining whether to establish a point-to-multipoint communication or a point-to-point communication based on the comparison.
- 15 2. The method of claim 1, wherein the threshold comprises a threshold adjusted by the determined quantity of mobile stations subscribed to the Multimedia Broadcast Multicast Service (MBMS) service and maintaining an active connection.
- 20 3. The method of claim 1, wherein determining whether to establish a point-to-multipoint communication or a point-to-point communication comprises determining to establish a point-to-multipoint communication when the number of responses exceeds the threshold.
- 25 4. The method of claim 3, wherein determining whether to establish a point-to-multipoint (PTM) communication or a point-to-point (PTP) communication comprises, when the number of received responses does not exceed the threshold, determining whether to establish a PTM communication or a PTP communication based on the access probability factor.
- 30 5. The method of claim 4, wherein determining whether to establish a point-to-multipoint (PTM) communication or a point-to-point (PTP) communication comprises:

when the number of received responses does not exceed the threshold, determining whether the access probability factor is equal to one (1);

when the access probability factor is not equal to one (1), determining whether to establish a PTM communication or a PTP communication based on the number of idle mode mobile stations responding to the control message.

6. The method of claim 3 further comprising:
upon determining to establish a point-to-multipoint (PTM) communication:
adjusting the access probability factor based on the number of responses from idle mode mobile stations and the threshold;
establishing a PTM communication channel.

7. The method of claim 1, wherein determining whether to establish a point-to-multipoint communication or a point-to-point communication comprises determining to establish a point-to-point communication when the number of received responses does not exceed the threshold.

8. The method of claim 7, wherein determining to establish a point-to-point (PTP) communication comprises:
determining whether the access probability factor is equal to one (1):
when the number of received responses does not exceed the threshold and when the access probability factor is equal to one (1), establishing a PTP communication channel with each MS responding to the control message.

9. The method of claim 7, wherein determining to establish a point-to-point (PTP) communication comprises:
determining whether the access probability factor is equal to one (1):
when the access probability factor is not equal to one (1), determining whether the number of idle mode mobile stations responding to the control message is equal to zero (0); and

when the number of received responses does not exceed the threshold and when the number of idle mode mobile stations responding to the control message is equal to

zero (0), establishing a PTP communication channel with each MS responding to the control message.

10. The method of claim 1, wherein determining whether to establish a point-to-
5 multipoint (PTM) communication or a point-to-point (PTP) communication when the number of received responses does not exceed the threshold comprises:

determining whether the access probability factor is equal to one (1);

- when the access probability factor is not equal to one (1), determining whether the
number of idle mode mobile stations responding to the control message is equal to zero
10 (0); and

when the number of idle mode mobile stations responding to the control message
is not equal to zero (0);

- adjusting the access probability factor based on the number of idle mode
mobile stations responding to the control message and the threshold to produce an
adjusted access probability factor;
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determining whether to establish a PTM communication or a PTP
communication based on the adjusted access probability factor.

11. The method of claim 10, wherein the control message comprises a first control
20 message, the comparison comprises a first comparison and wherein determining, when the number of idle mode mobile stations responding to the control message is not equal to zero (0), whether to establish a point-to-multipoint (PTM) communication or a point-to-point (PTP) communication based on the adjusted access probability factor comprises:

- determining whether the adjusted access probability factor is greater than the
25 threshold;

when the adjusted access probability factor is not greater than the threshold,
determining whether the adjusted access probability factor is greater than one (1);

when the adjusted access probability factor is not greater than one (1);

- broadcasting a second control message comprising the adjusted access
probability factor;
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receiving, from each of one or more idle mode mobile stations, a response
to the second control message;

comparing a number of responses received in response to the second control message to the threshold to produce a second comparison; and

determining whether to establish a PTM communication or a PTP communication based on the second comparison.

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12. The method of claim 10, wherein determining, when the number of idle mode mobile stations responding to the control message is not equal to zero (0), whether to establish a point-to-multipoint (PTM) communication or a point-to-point (PTP) communication based on the adjusted access probability factor comprises:

10 determining whether the adjusted access probability factor is greater than the threshold;

when the adjusted access probability factor is not greater than the threshold, determining whether the adjusted access probability factor is greater than one (1);

when the adjusted access probability factor is greater than one (1), establishing a
15 PTP communication channel with each MS responding to the control message.

13. The method of claim 10, wherein the control message comprises a first control message and the comparison comprises a first comparison, wherein determining, when the number of idle mode mobile stations responding to the control message is not equal to
20 zero (0), whether to establish a point-to-multipoint (PTM) communication or a point-to-point (PTP) communication based on the adjusted access probability factor comprises:

determining whether the adjusted access probability factor is greater than the threshold;

when the adjusted access probability factor is greater than the threshold,
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setting the adjusted access probability factor to one (1);

broadcasting a second control message comprising the adjusted access probability factor;

receiving, from each of one or more idle mode mobile stations, a response to the second control message;

30 comparing a number of responses, from the one or more idle mode mobile stations to the second control message, to the threshold to produce a second comparison; and

determining whether to establish a PTM communication or a PTP communication based on the second comparison.

14. The method of claim 1, wherein determining whether to establish a point-to-
5 multipoint communication or a point-to-point communication based on the number of responses comprises:

adjusting the access probability factor based on the number of received responses to the control message to produce an adjusted access probability factor;

determining whether the adjusted access probability factor is greater than or equal
10 to one (1);

when the adjusted access probability factor is greater than or equal to one (1), establishing a point-to-point (PTP) communication channel with each MS responding to the control message.

15. The method of claim 14, wherein the control message comprises a first control message, the comparison comprises a first comparison, and further comprising, when the
15 when the adjusted access probability factor is less than one (1):

broadcasting a second control message comprising the adjusted access probability factor;

20 receiving, from each of one or more idle mode mobile stations, a response to the second control message comprising the adjusted access probability factor;

comparing the number of received responses to the second control message to the threshold to produce a second comparison; and

determining whether to establish a point-to-multipoint communication or a point-
25 to-point communication based on the second comparison.

16. A method for accessing a Multimedia Broadcast Multicast Service (MBMS) service comprising:

receiving, by a mobile station, a control message associated with the MBMS service and comprising an access probability factor;

5 when an active connection exists between the mobile station and an infrastructure, ignoring the control message; and

when an active connection does not exist between the mobile station and an infrastructure, determining whether to respond to the control message based on the access probability factor.

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17. The method of claim 16, further comprising, upon determining to respond to the control message, conveying a request for a connection.

18. An apparatus for controlling access to a Multimedia Broadcast Multicast Service (MBMS) service comprising:

at least one memory device that maintains an access probability factor and further maintains a record of a quantity of mobile stations subscribed to the MBMS service and
5 maintaining an active connection;

a processor coupled to the at least one memory device that determines a quantity of mobile stations subscribed to the MBMS service and maintaining an active connection and an access probability factor by reference to the at least one memory device, conveys a control message comprising the access probability factor, receives, from each of one or
10 more idle mode mobile stations, a response to the control message; compares the number of received responses to a threshold to produce a comparison, and determines whether to establish a point-to-multipoint communication or a point-to-point communication based on the comparison.

15 19. The apparatus of claim 18, wherein the threshold comprises a threshold adjusted by the determined quantity of mobile stations subscribed to the Multimedia Broadcast Multicast Service (MBMS) service and maintaining an active connection.

20 20. The apparatus of claim 18, wherein the processor determines to establish a point-to-multipoint communication when the number of responses exceeds the threshold.

21. The method of claim 20, wherein, when the number of received responses does not exceed the threshold, the processor determines whether to establish a point-to-multipoint (PTM) communication or a point-to-point (PTP) communication based on the access
25 probability factor.

22. The method of claim 21, wherein, when the number of received responses does not exceed the threshold and the access probability factor is not equal to one (1), the processor determining whether to establish a point-to-multipoint (PTM) communication
30 or a point-to-point (PTP) communication based on the number of idle mode mobile stations responding to the control message.

23. The apparatus of claim 20, wherein the processor, upon determining to establish a point-to-multipoint (PTM) communication, adjusts the access probability factor based on the number of responses from idle mode mobile stations and the threshold and arranges for conveyance of Multimedia Broadcast Multicast Service (MBMS) data over a PTM communication channel.

24. The apparatus of claim 18, wherein the processor determines to convey Multimedia Broadcast Multicast Service (MBMS) data via a point-to-point communication when the number of received responses does not exceed the threshold.

25. The apparatus of claim 24, wherein the processor determines to convey Multimedia Broadcast Multicast Service (MBMS) data via a point-to-point (PTP) communication by determining whether the access probability factor is equal to one (1) and, when the access probability factor is equal to one (1), determining to convey MBMS data via a PTP communication channel.

26. The apparatus of claim 24, wherein the processor determines to convey Multimedia Broadcast Multicast Service (MBMS) data via a point-to-point (PTP) communication by determining whether the access probability factor is equal to one (1), when the access probability factor is not equal to one (1), determining whether the number of idle mode mobile stations responding to the control message is equal to zero (0), and when the number of idle mode mobile stations responding to the control message is equal to zero (0), determining to convey MBMS data via a PTP communication channel.

27. The apparatus of claim 18, wherein the processor determines whether to establish a point-to-multipoint (PTM) communication or a point-to-point (PTP) communication when the number of received responses does not exceed the threshold by determining whether the access probability factor is equal to one (1), when the access probability factor is not equal to one (1), determining whether the number of idle mode mobile stations responding to the control message is equal to zero (0), and when the number of idle mode mobile stations responding to the control message is not equal to zero (0),

adjusting the access probability factor based on the number of idle mode mobile stations responding to the control message and the threshold to produce an adjusted access probability factor and determining whether to establish a PTM communication or a PTP communication based on the adjusted access probability factor.

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28. The apparatus of claim 27, wherein the control message comprises a first control message, the comparison comprises a first comparison, and wherein, when the number of idle mode mobile stations responding to the control message is not equal to zero (0), the processor determines whether to establish a point-to-multipoint (PTM) communication or
10 a point-to-point (PTP) communication based on the adjusted access probability factor by determining whether the adjusted access probability factor is greater than the threshold, when the adjusted access probability factor is not greater than the threshold, determining whether the adjusted access probability factor is greater than one (1), and when the adjusted access probability factor is not greater than one (1), conveying a second control
15 message comprising the adjusted access probability factor, receiving, from each of one or more idle mode mobile stations, a response to the second control message, comparing a number of responses received in response to the second control message to the threshold to produce a second comparison, and determining whether to establish a PTM communication or a PTP communication based on the second comparison.

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29. The apparatus of claim 27, wherein, when the number of idle mode mobile stations responding to the control message is not equal to zero (0), the processor determines whether to establish a point-to-multipoint (PTM) communication or a point-to-point (PTP) communication based on the adjusted access probability factor by
25 determining whether the adjusted access probability factor is greater than the threshold, when the adjusted access probability factor is not greater than the threshold, determining whether the adjusted access probability factor is greater than one (1), and when the adjusted access probability factor is greater than one (1), arranging to convey Multimedia Broadcast Multicast Service (MBMS) data via a PTP communication channel.

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30. The apparatus of claim 27, wherein the control message comprises a first control message, the comparison comprises a first comparison, and wherein, when the number of

idle mode mobile stations responding to the control message is not equal to zero (0), the processor determines whether to establish a point-to-multipoint (PTM) communication or a point-to-point (PTP) communication based on the adjusted access probability factor by determining whether the adjusted access probability factor is greater than the threshold
5 and, when the adjusted access probability factor is greater than the threshold, setting the adjusted access probability factor to one (1), conveying a second control message comprising the adjusted access probability factor, receiving, from each of one or more idle mode mobile stations, a response to the second control message, comparing a number of responses to the second control message to a threshold to produce a second
10 comparison, and determining whether to establish a PTM communication or a PTP communication based on the second comparison.

31. The apparatus of claim 18, wherein the processor determines whether to establish a point-to-multipoint (PTM) communication or a point-to-point (PTP) communication by
15 adjusting the access probability factor based on the number of received responses to the control message to produce an adjusted access probability factor, determining whether the adjusted access probability factor is greater than or equal to one (1), and when the adjusted access probability factor is greater than or equal to one (1), arranging for conveyance of Multimedia Broadcast Multicast Service (MBMS) data via a PTP
20 communication.

32. The apparatus of claim 31, wherein the control message comprises a first control message, the comparison comprises a first comparison, and wherein the processor, when
the when the adjusted access probability factor is less than one (1), conveys a second
25 control message comprising the adjusted access probability factor, receives, from each of one or more idle mode mobile stations, a response to the second control message comprising the adjusted access probability factor, compares the number of received responses to the second control message to the threshold to produce a second comparison; and determines whether to establish a point-to-multipoint communication or a point-to-
30 point communication based on the second comparison.

33. A mobile station capable of accessing a Multimedia Broadcast Multicast Service (MBMS) service, wherein the mobile station comprises:

a receiver that receives a control message associated with the MBMS service and comprising an access probability factor; and

5 a processor operably coupled to the receiver that receives the control message from the receiver, ignores the control message when an active connection exists between the mobile station and an infrastructure, and, when an active connection does not exist between the mobile station and an infrastructure, determines whether to respond to the control message based on the access probability factor.

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34. The mobile station of claim 33, wherein the processor, upon determining to respond to the control message, conveys a request for a connection.